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Searching Smart With Standards: Using Curriculum Standards to Find Educational Resources in Digital Libraries

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Searching Smart With Standards

Using Curriculum Standards to Find Educational Resources in Digital Libraries

Anne Diekema & Sheri Haderlie
Where to find our presentation

http://digitalcommons.usu.edu/itls_facpub/500
Educational standards

A Nation At Risk (1983) / National Commission on Excellence in Education

What was unimaginable a generation ago has begun to occur--others are matching and surpassing our educational attainments.
We have dismantled essential support systems which helped make those gains possible.

We have, in effect, been committing an act of unthinking, unilateral educational disarmament.
A Nation At Risk (1983) / National Commission on Excellence in Education

We recommend that schools, colleges, and universities adopt more rigorous and measurable standards, and higher expectations, for academic performance and student conduct, ....

- Compliance, Guidance, Accountability, Evaluation, Bargaining Chip, Standardization, Communication
Standards search (as phenom)

- Teacher information seeking
- Open Educational Resources (OER)
- Alignment between standards and resources allows for standards search
- Other educational resource search options
  - grade level
  - subject area
  - resource type, etc.
Standards crosswalks

Standards crosswalks show alignments between at least two different standards. For example, AASL created a crosswalk between the CCSS and the Standards for the 21st Century Learner.

Handy for collaboration between teachers and teacher librarians.

Handy for standards search with limited standards options (e.g. only national standards).

http://www.ala.org/aasl/standards-guidelines/crosswalk
<table>
<thead>
<tr>
<th>AASL English Language Arts Crosswalk - Grade 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CC.3.R.F.4.b</strong> Fluency: Read grade-level prose and poetry orally with accuracy, appropriate rate, and expression.</td>
</tr>
<tr>
<td><strong>CC.3.R.F.4.c</strong> Fluency: Use context to confirm or self-correct word recognition and understanding, rereading as necessary.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.1</strong> Key Ideas and Details: Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.</td>
</tr>
<tr>
<td>1.1.3 Develop and refine a range of questions to frame search for new understanding.</td>
</tr>
<tr>
<td>1.1.6 Read, view, and listen for information presented in any format (e.g., textual, visual, media, digital) in order to make inferences and gather meaning.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.2</strong> Key Ideas and Details: Determine the main idea of a text; recount the key details and explain how they support the main idea.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.3</strong> Key Ideas and Details: Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.</td>
</tr>
<tr>
<td>1.1.7 Make sense of information gathered from diverse sources by identifying misconceptions, main and supporting ideas, conflicting information, and point of view or bias.</td>
</tr>
<tr>
<td>2.1.1 Continue an inquiry-based research process by applying critical thinking skills (analysis, synthesis, evaluation, organization) to information and knowledge in order to construct new understandings, draw conclusions, and create new knowledge.</td>
</tr>
<tr>
<td><strong>CC.3.R.I.4</strong> Craft and Structure: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.</td>
</tr>
</tbody>
</table>
Digital Library Examples

Teach Engineering: https://www.teachengineering.org/search_standards.php

PBS Learning Media: http://www.pbslearningmedia.org/standards/0

OER Commons: https://www.oercommons.org/advanced-search


Library of Congress: http://www.loc.gov/teachers/

Utah Education Network (UEN): http://www.uen.org/curriculumsearch/searchParams.action
TeachEngineering

STEM content
Collaborative project between faculty, students, and teachers associated with five founding partner universities, with National Science Foundation funding

- searchable, web-based digital library collection, free activities, lessons, units and living labs, and “sprinkles”
- standards-based engineering curricula for use by K-12 teachers and engineering faculty
- applied science and math through engineering design in K-12 settings

https://www.teachengineering.org/
CURRICULUM FOR K-12 TEACHERS
Standards-aligned engineering lessons and hands-on activities for use in science, engineering, and math classrooms.
TeachEngineering Standards Search

International, national (CCSS, NGSS), and state standards, and grade level

Standards search first then refine with search terms and grade levels

Results show standard and number of “hits”
## Standards Source:

- **Common Core State Standards for Mathematics**

<table>
<thead>
<tr>
<th>Standard Grades</th>
<th>16 standards found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counting and Cardinality (K-K)</td>
<td>show</td>
</tr>
<tr>
<td>(1 lessons/activities/units aligned)</td>
<td></td>
</tr>
<tr>
<td>Operations and Algebraic Thinking (K-5)</td>
<td>show</td>
</tr>
<tr>
<td>(52 lessons/activities/units aligned)</td>
<td></td>
</tr>
<tr>
<td>Number and Operations in Base Ten (K-5)</td>
<td>show</td>
</tr>
<tr>
<td>(57 lessons/activities/units aligned)</td>
<td></td>
</tr>
<tr>
<td>Measurement and Data (K-5)</td>
<td>show</td>
</tr>
<tr>
<td>(103 lessons/activities/units aligned)</td>
<td></td>
</tr>
<tr>
<td>Geometry (K-8)</td>
<td>show</td>
</tr>
<tr>
<td>(123 lessons/activities/units aligned)</td>
<td></td>
</tr>
<tr>
<td>Number and Operations &amp; Fractions (3-5)</td>
<td>show</td>
</tr>
<tr>
<td>(16 lessons/activities/units aligned)</td>
<td></td>
</tr>
<tr>
<td>Ratios and Proportional Relationships (6-7)</td>
<td>show</td>
</tr>
<tr>
<td>(122 lessons/activities/units aligned)</td>
<td></td>
</tr>
<tr>
<td>The Number System (6-8)</td>
<td>show</td>
</tr>
<tr>
<td>(161 lessons/activities/units aligned)</td>
<td></td>
</tr>
</tbody>
</table>
Standards Source:

Common Core State Standards for Mathematics

Current Standard:

- Number and Operations in Base Ten (K-5)

Standard's Subset:

- Work with numbers 11-19 to gain foundations for place value, (K-K) ...
- Extend the counting sequence, (1-1) ...
- Understand place value, (1-2) ...
- Use place value understanding and properties of operations to add and subtract, (1-2) ...
- Use place value understanding and properties of operations to perform multi-digit arithmetic, (3-4) ...
- Generalize place value understanding for multi-digit whole numbers, (4-4) ...
- Perform operations with multi-digit whole numbers and with decimals to hundredths, (5-5) ...

Lesson/Activities/Units Aligned:
- 17 lessons/activities/units aligned
Aligned Curriculum

Aligned Activities
20/20 Vision
About Accuracy and Approximation
Magnitude of the Richter Scale
Scale Model of the Earth
Will It Conduct?

Aligned Lessons
The Building Blocks of Matter
Mercury and Venus
One Path

Generalize place value understanding for multi-digit whole numbers. (4-4) show (no curriculum aligned)
Perform operations with multi-digit whole numbers and with decimals to hundredths. (5-5) show (37 lessons/activities/units aligned)
Understand the place value system. (5-5) show (8 lessons/activities/units aligned)
PBS LearningMedia

Thousands of classroom-ready, curriculum-targeted digital resources for PreK-12 educators. Resources are aligned to Common Core & national standards.

Videos and interactives, audio, documents, and in-depth lesson plans.

Browse by standards, grade level, subject area, and special collections.

Social media: favorite and share resources with your class & colleagues.

http://www.pbslearningmedia.org/standards/0
Bring Your Classroom to Life With PBS
Register Now
It's Free!
Why register? Find out more

The American Revolution
Experience the American Revolution through this amazing suite of interactive maps, videos, and letters detailing the leadership of General George Washington.
PBS LearningMedia Standards Search

Browse by standard.
Select standard,
then grade,
and then keywords (optional).

Common Core (ELA, math) - college and career readiness standards, and national standards.
Browse by Standards

Browse by standards allows you to find all resources that support a given standards statement. Reference terms are assigned to each statement within a standards document and to each media resource, and correlations are based upon matches of these terms for a given grade band.

Step 1: Select Standards and documents

Type of Standards *
- Select Type of Standards ▼

Document *
- Select Document ▼

Browse

Step 2: Select Grades

☐ Pre-K ☐ K ☐ 1  
☐ 2 ☐ 3 ☐ 4  
☐ 5 ☐ 6 ☐ 7  
☐ 8 ☐ 9 ☐ 10 
☐ 11 ☐ 12 ☐ 13+

Step 3: (optional) Type Keyword(s)
Browse by Standards

Browse by standards allows you to find all resources that support a given standards statement. Reference terms are assigned to each statement within a standards document and to each media resource, and correlations are based upon matches of these terms for a given grade band.

<table>
<thead>
<tr>
<th>Step 1: Select Standards and documents</th>
<th>Step 2: Select Grades</th>
<th>Step 3: (optional) Type Keyword(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Standards</strong> *</td>
<td>Pre-K</td>
<td></td>
</tr>
<tr>
<td>National Standards</td>
<td>K</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
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<td>3</td>
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<td>5</td>
<td>6</td>
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<td>8</td>
<td>9</td>
</tr>
<tr>
<td><strong>Document</strong> *</td>
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<tr>
<td>✓ -- Select Document --</td>
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<tr>
<td>Benchmarks for Science Literacy</td>
<td></td>
<td></td>
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<tr>
<td>College and Career Readiness Standards for Adult Education</td>
<td></td>
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<tr>
<td>Content Standards</td>
<td></td>
<td></td>
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<tr>
<td>Head Start Child Development and Early Learning Framework</td>
<td></td>
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<tr>
<td>National Health Education Standards</td>
<td></td>
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<tr>
<td>National Standards for History</td>
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<tr>
<td>National Standards for Physical Education</td>
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<tr>
<td>NSTA National Science Education Standards</td>
<td></td>
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<tr>
<td>Standards for Foreign Language Learning</td>
<td></td>
<td></td>
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<tr>
<td>The National Visual Arts Standards</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Browse by Standards

Browse by standards allows you to find all resources that support a given standards statement. Reference terms are assigned to each statement within a standards document and to each media resource, and correlations are based upon matches of these terms for a given grade band.

Step 1: Select Standards and documents

- Type of Standards *
  - Common Core State Standards

- Document *
  - College- and Career-Readin

Step 2: Select Grades

- □ Pre-K
- □ K
- □ 1
- □ 2
- □ 3
- □ 4
- □ 5
- □ 6
- □ 7
- □ 8
- □ 9
- □ 10
- □ 11
- □ 12
- □ 13+

Step 3: (optional) Type Keyword(s)

fractions

Browse
Grade 6 Introduction 6 In Grade 6, instructional time should focus on four critical areas: (1) connecting ratio and rate to whole number multiplication and division and using concepts of ratio and rate to solve problems; (2) completing understanding of division of fractions and extending the notion of number to the system of rational numbers, which includes negative numbers; (3) writing, interpreting, and using expressions and equations; and (4) developing understanding of statistical thinking.

Grade 6 CCSS.Math.Content.6.NS The Number System

Grade 6 CCSS.Math.Content.6.NS.A Apply and extend previous understandings of multiplication and division to divide fractions by fractions.
OER Commons

Digital library with open educational resources (OER)
Free resources - creative commons licenses
Users tag, rate, and review materials
ISKME nonprofit mission: improve practice of continuous learning, collaboration, and change in the education sector

https://www.oercommons.org/advanced-search
Your Commons, Their Future

We are a dynamic digital content hub offering a suite of OER supports. From roadmaps to training to tools, we'll get the right OER to your students.
OER Commons Standards Search

Regular search combined with additional criteria such as standards, grade level, subject, language, material type, rating, etc.
Standards search only at highest level. Drill down only at individual resource
Alignment not visible in results set (implicit in ranking)
Fractions

Abstract: This interactive Flash applet can be used to compare and explore equivalence among fractions, decimals and percentages. It allows a child or teacher to represent fractions on one or more fraction strips, and to color individual parts. Each displayed strip can be labelled as a fraction, a decimal (to three decimal places) or a percentage; the ratio of yellow to green parts of each strip can also be displayed. It lends itself well to use with an interactive white board. A pdf guide to this collection of teaching applets is cataloged separately.
Rational Number Project: Initial Fraction Ideas
The Rational Number Project (RNP) advocates teaching fractions using a model that ...
(more)

Subject: Mathematics and Statistics, Mathematics
Material Type: Activities and Labs, Assessments, Homework and Assignments, Instructional Material, Lesson Plans, Teaching and Learning Strategies
Provider: Maryland Public Television, University of Minnesota
Provider Set: Mathlanding: Elementary Mathematics Pathway, University of Minnesota
Author: Kathleen Cramer, Merlyn Behr, Richard Lesh, Thomas Post

Fantastic Fractions!
Use these activities to practice your fractions! First, find equivalent fractions by ...
(more)

Subject: Mathematics and Statistics, Mathematics, Education
Material Type: Activities and Labs, Instructional Material
Provider: Instructional Architect
Provider Set: Instructional Architect
Author: Mrs. Porock
Promethean Planet

“Created by teachers, for teachers, … a unique teaching, sharing and support community -- your place to connect, create, and change the classroom.”

Choose by State or Common Core or National Standard
Choose Grade

Search by State Standards
Search for lessons by State Standard with Promethean Planet

Grades:
- All Grades
- Pre-K
- Kindergarten
- 1st Grade
- 2nd Grade
- 3rd Grade
- 4th Grade
- 5th Grade
- 6th Grade
- 7th Grade
- 8th Grade
- 9th Grade
- 10th Grade
- 11th Grade
- 12th Grade
Search by State Standards
Search for lessons by State Standard with Promethean Planet

Search by State Standards:
Common Core  
Science  
10th Grade  
velocity  
Submit
Displaying 1-7 of 07 results

Utah
10th Grade
Science
l.1.c. Distinguish between speed and velocity.
  - Acceleration

Utah
10th Grade
Science
l.1.d. Determine and compare the average and instantaneous velocity of an object from data showing its position at given times.
  - The Tides

Utah
10th Grade
Science
l.2.a. Determine the average acceleration of an object from data showing velocity at given times.
  - Acceleration
ACCELERATION

Description
Acceleration flipchart using Kagan Structures.
Library of Congress

“...classroom materials and professional development to help teachers effectively use primary sources...”

Lesson plans and more by Common Core, state content standards, or the standards of national Organizations.

http://www.loc.gov/teachers/
<table>
<thead>
<tr>
<th>Search Our Classroom Materials by Standards</th>
<th>Common Core</th>
<th>State Content</th>
<th>Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>State</td>
<td>Common Core State Standards</td>
<td>1</td>
<td>English Language Arts</td>
</tr>
<tr>
<td>State</td>
<td>Utah</td>
<td>1</td>
<td>Library / Technology</td>
</tr>
<tr>
<td>State</td>
<td>National Organizations</td>
<td>1</td>
<td>Social Studies: NCSS and NSCG</td>
</tr>
<tr>
<td>CCSS.ELA-Literacy.RL.4</td>
<td>STANDARD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Refer to details and examples in a text when explaining what the text</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>says explicitly and when drawing inferences from the text.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Library of Congress Classroom Materials**

- 8 Classroom materials:
  - 2 Primary Source Set
  - 1 Lesson Plans
  - 1 Presentations
  - 4 Collection Connections
Lesson Overview

The Civil War through a Child's Eye

An exploration of how children perceived and experienced the Civil War events. This lesson will focus on specific perspectives.

Objectives

Students will:
- Differentiate between and understand multiple viewpoints.
- Analyze and interpret historical documents and events.
- Make inferences based on primary sources.
- Create a literary portrait of a child's perspective on the Civil War.

Standards

Primary Source Sets

Civil War Soldiers' Portraits: The Liljenquist Family Collection

A selection of Library of Congress primary sources exploring the Civil War portraits in the Liljenquist Family Collection of Civil War Photographs from the Library of Congress. This set also includes a Teacher’s Guide with historical context and teaching suggestions.

Found Poetry

A selection of Library of Congress primary sources exploring found poetry and the ability to retell history from one's own perspective. This set also includes a Teacher’s Guide with historical context and teaching suggestions.

Lesson Plans

The Civil War Through a Child's Eye

Students use Library of Congress primary sources to examine the Civil War from a child's perspective.

Presentations

Women Pioneers in American Memory

This presentation uses Library of Congress primary sources to provide a comprehensive look at the stories of women who forged ahead to make a better life for themselves, their families, and their societies in the Westward expansion.

Collection Connections

American Notes: Travels in America

Historical context and ideas for teaching with primary sources from the Library of Congress. "American Notes: Travels in America, 1750-1920."

Florida Folklife from the WPA Collections, 1937-1942

Historical context and ideas for teaching with primary sources from the Library of Congress. "Florida Folklife from the WPA Collections, 1937-1942."
Utah Education Network

Connects all Utah school districts, schools, and higher education institutions to a robust network and quality educational Resources

http://www.uen.org/curriculumsearch/searchParams.action
Core Standards of the Course

Domain: Ratios & Proportional Relationships

Analyze proportional relationships and use them to solve real-world problems.

1. Compute unit rates associated with ratios of fractions, including rates given in literacy and consumer contexts. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as 3 miles per hour.
Become Standards Search Savvy

Get a handle on all applicable standards
Find crosswalks between standards or create your own
Maintain list of digital libraries with standards search
Note search options
Share with teachers (professional development, etc.)
Real life

Please share your own standards search experiences
Reference

Additional digital libraries
with standards search options

Other libraries we found but did not demonstrate

**gooru**: [http://www.goorulearning.org/#home](http://www.goorulearning.org/#home)

**ABC Teach**: [http://abcteach.com](http://abcteach.com)

**NSDL**: [http://nsdl.oercommons.org](http://nsdl.oercommons.org)

**CK-12 Foundation**: [http://www.ck12.org](http://www.ck12.org)
Where to find our presentation

http://digitalcommons.usu.edu/itls_facpub/500